

# INTRODUCTION

## SECTION III - GUIDANCE DOCUMENTS

In developing Conservation Management Systems (CMS) guidance documents, the effects of practices and combinations of practices and management on the soil, water, air, plant, and animal resources are used. Social, economic, and cultural constraints are considered in the development process.

This section contains examples of CMS's by land use. These methods or similar approaches should be used to develop planning information for the farm, tract, or field depending on its unique characteristics.

Similar resource settings, with similar concerns are grouped with the treatment alternatives which address these concerns.

These considerations may vary from site to site and with land use but may be fairly constant over a region thus allowing for some advanced preparation of evaluation forms by land use. This will make the review of existing guidance documents an important aspect of preplanning with landusers. However, it is not intended that existing CMS guidance documents contained in this section be used as the basis

for a "cookbook" approach to planning, rather, it is the intent that existing guidance documents serve as a starting point for individual planning situations with similar resource problems.

The effects of the various practices are expressed using the symbols +, -, 0, or F (see definitions below). The symbols + and - can also have a slight or significant modifier attached where appropriate to indicate the range of effects.

All CMS's which are filed in this section have been evaluated and determined to have met the resource criteria for the identified resource concerns.

- + - the practice has a net positive effect on the resource concern
- - the practice has a net negative effect on the resource concern
- 0 - the practice has no effect on the resource concern
- F - the practice facilitates the application of another practice and the effects are addressed under that practice

The example guidance documents contained on the following pages are to serve as an example of how these documents are developed. It may be removed after the development of a local example.

#### RESOURCE SETTING:

This is a crop-cow/calf operation located in Charles Mix County, South Dakota. It is 1,240 acres in size. Nine hundred and sixty acres are rangeland and containing Sansarc-Boyd soils, 15-40 percent slope, and Betts-Ethan soils, 9-25 percent slope. The range sites are 30 percent shallow clay, 40 percent clayey, 20 percent thin upland, and 10 percent silty. The rangeland is 50 percent fair and 50 percent good condition.

There are 280 acres of cropland, half of which is Eakin-Clarno, 6-9 percent slope, and half is Highmore-Eakin, 2-6 percent slope. The operator has a 100-acre corn base and a 60-acre wheat base. The balance of the cropland is planted to alfalfa and cane.

Resource problems : Deteriorating range condition, brush encroachment, noxious weeds (musk thistle), and gully erosion resulting from cattle trailing are problems on the rangeland. The rangeland is currently divided into two units. One unit contains heifers through July 15. The other contains older cows. The herds are combined after July 15 and heifer bulls are used for clean up.

Cropland: The cropland consists of three fields of 100 acres, 120 acres, and 60 acres. The 100-acre and 120-acre fields are highly erodible lands (HEL) due to Eakin-Clarno soils, 6-9 percent slope. The 60-acre field is primarily Highmore-Eakin, 2-6 percent slope. An ACS was developed for the land user two years ago on the two HEL fields and consists of a rotation alternating low residue row crops (LRRC), high residue row crops (HRRC) with 30 percent ground cover after HRRC, and 10 percent after LRRC.

Wildlife consists of wild turkey and deer.

## SYLLABUS FOR DISCUSSION OF RMS DEVELOPMENT

Resource setting is typical for South Dakota. The land user has an HEL plan on his cropland, however, this will not meet RMS requirements for the Great Plains Conservation Program for the following reasons:

1. Sheet and rill erosion exceeds RMS levels.
2. Rotation used in the HEL plan will not meet resource criteria for soil tilth.
3. Nutrient management is not addressed in the HEL plan.

The description of the operating unit discusses the land user's ASCS bases. The logical solution to the erosion and livestock nutrition concerns on this unit would probably be to plant less corn and more forage. However, economic considerations make this unfeasible to the land user, illustrating the need to consider human considerations. A rotation for his cropland fields which addresses the soil resource and allows him to plant his base acres needs to be found. It should be noted that one rotation contains a year of oats, which is a crop he has no base for. The oats are used as a nurse crop when establishing alfalfa and are hayed prior to the ASCS disposition date. This is an important planning consideration. All rotations now will improve soil tilth.

The Rangeland Resource: The planning of this land use contains many hidden planning considerations. The land user currently has his rangeland divided into two units. Currently, this division is primarily to facilitate his breeding management. Improvement of livestock nutrition to speed cycling in his cows could allow the land user to combine his herds up to a month sooner than he is currently. Flushing would also help to accomplish this. Spot treatment of buckbrush and musk thistle with ground equipment should be encouraged if feasible.

The specifics on which type of grazing rotation will be used were left blank on the guide sheet because this could be highly variable. Many different rotations could meet the resource criteria. The crop rotations on the cropland guide sheets were specified primarily because the type of crop rotation used is critical to meeting the soil resource criteria. Well designed grazing systems in combination with proper grazing use will, in most all cases, meet the resource criteria. However, the various resource objectives need to be considered when planning the grazing system. For example, a 4-pasture, 3 times through grazing system may be best for upland game bird production but livestock performance may not be as high as when compared with another specialized system.